

## INTERNATIONAL SEARCH REPORT

 International Application No.  
 PCT/IB 03/05492

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC 7 H04R5/033 H04R1/10

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04R

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, INSPEC, IBM-TDB, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/039424 A1 (WATANUKI MASANORI) 4 April 2002 (2002-04-04) * page 1, paragraph '0006! - paragraph '0012! * * page 2, paragraph '0025! - page 4, paragraph '0066! * figures 1A-3B,5,6 ---	1-40
X	US 4 222 880 A (BAUR GUENTER ET AL) 16 September 1980 (1980-09-16) column 5, line 11 -column 5, line 54 figure 1 ---	1-40
A	US 5 222 151 A (NAGAYOSHI ATSUSHI ET AL) 22 June 1993 (1993-06-22) column 1, line 11 -column 2, line 14 column 2, line 32 -column 2, line 41 figures 1,2 --- -/--	1-40

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*8\* document member of the same patent family

Date of the actual completion of the international search

22 March 2004

Date of mailing of the international search report

02/04/2004

Name and mailing address of the ISA

 European Patent Office, P.B. 5818 Patentlaan 2  
 NL - 2280 HV Rijswijk  
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
 Fax (+31-70) 340-3016

Authorized officer

Meiser, J

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/IB 03/05492

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WO 02 35802 A (MAYER YARON)  2 May 2002 (2002-05-02)  page 2, last paragraph -page 7, paragraph 1  page 9, paragraph 4 -page 11, paragraph 1  figures 1-5</p>	1-40

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International Publication No  
**PCT/IB 03/05492**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002039424 A1	04-04-2002	JP 2002112383 A	12-04-2002
US 4222880 A	16-09-1980	DE 2742899 A1	29-03-1979
		AT 360599 B	26-01-1981
		AT 681578 A	15-06-1980
		BE 870702 A1	15-01-1979
		CA 1110328 A1	06-10-1981
		FR 2404347 A1	20-04-1979
		GB 1597014 A	03-09-1981
		IT 1098467 B	07-09-1985
		NL 7807118 A	27-03-1979
		SE 7809990 A	24-03-1979
US 5222151 A	22-06-1993	JP 2794920 B2	10-09-1998
		JP 4117899 A	17-04-1992
WO 0235802 A	02-05-2002	AU 1265802 A	06-05-2002
		AU 5060801 A	23-10-2001
		CA 2426860 A1	02-05-2002
		CA 2444128 A1	18-10-2001
		CN 1468469 T	14-01-2004
		EP 1287622 A2	05-03-2003
		GB 2378083 A	29-01-2003
		GB 2384133 A	16-07-2003
		WO 0178442 A2	18-10-2001
		WO 0235802 A2	02-05-2002
		US 2003083058 A1	01-05-2003
		US 2003232597 A1	18-12-2003
		US 2003228843 A1	11-12-2003